

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
21 June 2001 (21.06.2001)

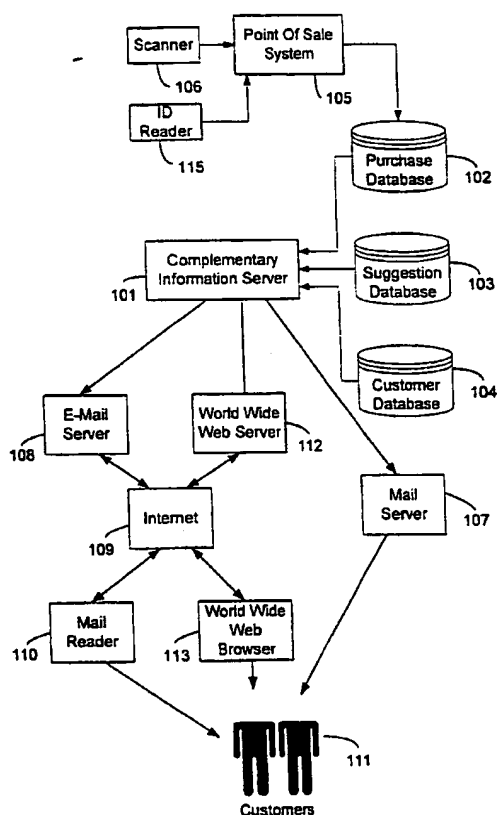
PCT

(10) International Publication Number  
**WO 01/45062 A1**

- (51) International Patent Classification<sup>7</sup>: **G07G 1/00**, (72) Inventor: VANDEVELDE, Scott, R.; 239 Carriage Trail, Barrington, IL 60010 (US).  
G06F 17/60
- (21) International Application Number: PCT/US00/02532 (74) Agents: NEIFELD, Richard, A. et al.; Oblon, Spivak, McClelland, Maier & Neustadt, P.C., Crystal Square Five, Fourth Floor, 1755 Jefferson Davis Highway, Arlington, VA 22202 (US).
- (22) International Filing Date: 6 March 2000 (06.03.2000)
- (25) Filing Language: English (81) Designated States (*national*): AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.
- (26) Publication Language: English
- (30) Priority Data: 09/465,033 16 December 1999 (16.12.1999) US
- (71) Applicant: CATALINA MARKETING INTERNATIONAL, INC. [US/US]; 11300 9th Street N., St. Petersburg, FL 33716 (US). (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent

[Continued on next page]

(54) Title: DISTRIBUTION OF COMPLEMENTARY INFORMATION RELATING TO RECENTLY PURCHASED ITEMS



(57) Abstract: A method, system and computer program product to provide individualized delivery of information to customers that complements products or services that customer has recently purchased. The preferred embodiment uses e-mail to deliver recipes to grocery store frequent shopper club members, although conventional mail or personal world wide web pages may also deliver the information. The delivered recipes use ingredients the customer is presumed to have on hand because the customer has recently purchased those ingredients. The customer's recent purchases are determined by recording purchase selections in association with a customer's identification at the grocery store checkout.

WO 01/45062 A1



(AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU,  
MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM,  
GA, GN, GW, ML, MR, NE, SN, TD, TG).

— *With amended claims.*

**Published:**

— *With international search report.*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

## **Distribution of Complementary Information Relating to Recently Purchased Items**

### **Background of the Invention**

#### **Field of the invention**

The present invention relates to distributing information related to products already purchased by a purchaser, and in particular to the distribution of complementary information related to products which a purchaser has recently purchased.

#### **Discussion of the background**

Manufacturers and retailers distribute through many channels a variety of information concerning products which they sell. The distributed information includes information which complements the product and assists the purchaser of a product to properly and fully utilize the product in a broad range of applications. Such complementary information includes warranty information, suggested uses for the product, information concerning other products which may complement the use of the product, and information describing other products in which the purchaser may be interested given his purchase of the last purchased product.

Usage suggestions are one type of complementary information distributed by manufacturers and retailers. Usage suggestions may be distributed to purchasers of a product to make the purchaser aware of more ways to use that product. Distributing these usage suggestions may increase sales of a product by encouraging the purchaser to use the product for a greater number of purposes than he or she would have if he or she were unaware of the alternative uses described in the usage suggestions. Usage suggestions may also describe the use of multiple products, either separately or in combination, and thereby encourage the purchaser to purchase the multiple products needed to implement the usage suggestion. Distributing usage suggestions may also develop new purchasers for a product. An individual who is not normally interested in a product may find a suggested use of that product desirable and purchase that product for the suggested use. This is especially true if a usage suggestion suggests using multiple products and the individual has already purchased and currently has on hand some of the products but has never purchases the remaining products. If an individual finds the usage suggestion desirable, he or she will purchase the other products for the first time and may thereafter continue to purchase the other products.

Usage suggestions take many forms according to the product whose use is suggested. Uses for hardware products and even tools may be described in usage suggestions which instruct the purchaser how to build a project such as a bird house or decorative fixture. Food producers often distribute recipes involving the use of their food products.

Usage suggestions are distributed to customers in a variety of ways. Product packaging or documentation enclosed in the packaging often contains instructions for the use of the product and may further describe projects or unconventional uses of the product. Packaged food goods manufacturers often print recipes on their product's packaging which use the food product in unconventional ways in an attempt to increase the use of the product by the customer. An example of the latter case is breakfast cereal boxes which have recipes describing the use of the breakfast cereal to make candy or other dessert items. Distributing usage suggestions with the product has proven effective since the individual has the product on hand when he or she sees the usage suggestion and is therefore encouraged to implement the usage suggestion. The complexity of these usage suggestions, however, is limited because it is not known which other products the purchaser has on hand and effective usage suggestions are limited to those which use common products that the purchaser is likely to have on hand.

Distributing food preparation recipes is a popular method of increasing the diversity of a food product's use. Consumers desire variety in their meals and providing a recipe, which requires ingredients the consumer has on hand and which instructs one in the preparation of a unconventional dish, facilitates a consumer in achieving variety in his or her meals. Choosing recipes to widely distribute is difficult because interesting recipes often have a fairly large number of different ingredients and assuming which ingredients a consumer has on hand is not reliable. More complex recipes are usually selected by the consumer, who is then responsible for knowing the items he or she has on hand and determining which recipes he or she may prepare. In order to find a practical recipe, consumers must usually spend considerable time looking through a cookbook in search of a recipe that requires only products that are on hand.

### Summary of the Invention

It is an object of the present invention to automatically distribute complementary

information to individual consumers for products that the consumer probably has on hand.

It is a further object of the present invention to allow product promoters to distribute complementary information, including product usage suggestions, to a customer for products or services that he or she has recently purchased, and therefore probably still has on hand, in order to encourage product consumption by that customer.

It is another object of the present invention to allow promoters to distribute to individual customers usage suggestions which require services or products that the individual customer has not recently purchased in order to encourage the purchase of those services or products.

It is yet another object of the present invention to allow the automated distribution to customers of information concerning products or services that customer has recently purchased.

It is yet another object of the present invention to allow automated distribution of further purchase suggestions, which may include purchasing incentives for the suggested purchases, to customers based upon products or services that the target customer has recently purchased.

It is another object of the present invention to allow the automatic distribution of complementary information in a manner that will cause the information to be received by a customer when it is most likely to be of interest to that customer.

The present invention achieves these and further objectives by providing a method, system and computer program product for automatically targeting and distributing complementary information to customers based upon recent purchases made by that individual customer. A system implementing the present invention includes a computer system that maintains a database, which stores customer identifications and optionally customer demographic data concerning individual customers. The system of the present invention identifies purchase transaction items, which may be products or services, made by purchasers who present identification during the purchase transaction and stores a description of these purchases (by item purchased, dollar amount of purchase and cost of each item) in a database in association with the customer's identification and the date and time of the purchase. The present invention further stores information which complements purchasable

items, such as cooking recipes in which a purchasable item is an ingredient, warranty information and information concerning other purchasable items that are related to those purchased by the customer. The stored descriptions of customer purchases are compared to the purchasable items for which complementary information is stored. If a customer has purchased products within a specified time frame and for which information is stored, the present invention will send the complementary information to the customer. The system of the present invention may send the information through electronic communications, such as e-mail, or printed information may be sent to the customer's address which is stored in the customer database. E-mail messages may be sent to arrive at the customer's account at presumed times of interest, such as sending cooking recipes to a workplace e-mail address just before quitting time. The system of the present invention may also maintain a World Wide Web site which includes separate display pages for each customer and which display the recipe information, along with images depicting preparation instructions and the finished dish.

### Brief Description of the Drawings

Figure 1 is a schematic diagram showing the interconnection between major components of the preferred embodiment of the present invention;

Figure 2 is a schematic of a data record stored in the purchase database; and

Figure 3 is a schematic of data records stored in the complementary information database including an expansion of a specified set of items sub-record.

### Description of the Preferred Embodiments

The present invention provides an automated mechanism to distribute information that complements recent customer purchases. The present invention may be used to distribute complementary information consisting of usage suggestions for mechanical items, such as power tools, hardware and shop supplies, as well as recipes for meals using grocery products recently purchased by a customer. The present invention may also distribute other information related directly to the recently purchased product, such as warranty or safety information.

Another type of information which the present invention may distribute is descriptions

of services or products which complement a purchasable item, which is a service or product, that a customer has recently purchased. Complementary services or products include services or products used in conjunction with the purchased product. For example, information concerning drill bits may be sent to a recent drill purchaser since drill bits complement a drill in the sense that both products are often used together to achieve the result of forming a drilled hole. Complementary services or products further include services or products in which the customer may be interested given his or her recent purchases. For example, information concerning renting a movie that is a sequel or similar movie to a movie recently rented by the customer.

The preferred embodiment described herein focuses upon distributing food preparation recipes that use food products which a customer has purchased in recent purchase transactions, and which are assumed to still be in his or her household. The focus in this description upon recipes is to improve clarity of the description of the preferred embodiment and it is to be noted that distributing the other complementary information, such as that described above and elsewhere in this specification, may be accomplished by an embodiment of the present invention that is similar to the described embodiment.

The preferred embodiment of the present invention comprises a computer resident data processor which accepts information describing purchase transaction items, i.e. products or services purchased, that a customer has purchased during one or more recent purchase transactions, stores a description of the purchase transaction items purchased and analyzes these purchases to determine if the customer has purchased a specified set of items. The system of the present invention may limit its analysis to purchase transactions which occurred within a given time period, such as within a short, recent time period. A specified set of items in the context of the present invention is a set of items of which a description is stored in conjunction with complementary information. A specified set of items may consist of only one item, or the specified set of items may consist of multiple items. A customer's purchase of a specified set of items will trigger the sending of the complementary information that is stored in association with that specified set of items to the purchasing customer.

A schematic diagram of the preferred embodiment is illustrated in figure 1. The complementary information server 101 is the central processor performing much of the processing performed in the preferred embodiment. The complementary information server

101 analyzes descriptions, which are stored in a computer database, of recent purchases made by each customer, determines product usage suggestions or other complementary information to send to the customer making the purchase, and causes the information to be provided (e.g. delivered) to the customer.

The initial data required by the present invention is a list of purchase transaction items a customer has recently purchased. Purchase transaction items are purchasable items (e.g. products or services) that a customer (or purchaser) is purchasing or has purchased in a purchase transaction. A customer who has purchased a product or service is referred to herein as a purchaser. In the preferred embodiment, the Point of Sale (POS) system 105 accumulates a description of purchase transaction items and communicates it to the purchase database 102. The POS system 105 comprises conventional electronic cash register equipment used in many retail outlets to determine the list of purchase transaction items that are purchased by a customer in a purchase transaction and to calculate the total purchase amount to be paid. The POS system 105 generates this description of the purchase transaction items and generates an electronically readable list of these items. The POS system 105 utilized by the preferred embodiment comprises a scanner 106 which reads printed bar codes that are placed on products the retailer has offered for sale. The POS system operator will pass these printed bar codes across the scanner 106 and the scanner will generate an electronically readable signal corresponding to the product being passed across the scanner. The POS system 105 further comprises an operator interface allowing the operator to enter purchase transaction items such as services or items without attached or affixed bar codes. This electronically readable signal is processed by the POS system 105 and is used to generate an electronically readable list containing all of the purchase transaction items purchased by that customer during that transaction.

The POS system 105 also comprises a customer identification means, referred to in figure 1 as an ID Reader 115. ID reader 115 determines the identification of the customer making the current purchase and allows the POS system 105 to associate the customer's identification with the customer's purchase selections. The ID reader 115 in the preferred embodiment reads a printed bar code contained upon an identification card provided to the customer by the retailer. The card used in the preferred embodiment may be a frequent shopper card, which is an identification card used by retailers to offer special promotions to



customers who have registered for a frequent shopper card. The retailers encourage customers to present their frequent shopper card by making these special promotions available only to customers who present a frequent shopper card. A retailer may accumulate and analyze the purchase selections made by a particular customer who presents the same frequent shopper card in order to determine shopping patterns for individual customers and more effectively direct incentives to either each individual customer or to customers in general. Alternative embodiments of the present invention may use different customer identification techniques and the ID readers 115 utilized by these embodiments are designed according to the identification techniques used by the particular embodiment. Examples of alternative identification techniques include reading data encoded upon a magnetic stripe on a card (including credit cards and bank account debit cards), reading a checking account number of a check used by the customer to pay for his or her purchases, or measuring customer biometrics such as fingerprints, iris patterns and other techniques known to practitioner in the relevant arts. Customer identification means in embodiments using data encoded onto a magnetic stripe may read that data by passing the magnetic stripe across a read head. Account numbers, such as credit and bank debit card account numbers, that are encoded onto magnetic stripes or otherwise may be read and used for identification purposes separately from their use in providing a payment account. Checking account numbers may similarly be read through automated equipment known to practitioners in the relevant arts that will produce an electronically readable account number and the account number may be used to identify the customer in addition to tracking data associated with purchases.

The electronically readable list of purchase selections and an identification of the customer making that purchase is communicated to the purchase database 102. The data stored in the purchase database 102 is illustrated in figure 2. Purchase database 102 contains a plurality of purchase data records 208, each one of which has a structure similar to the example purchase data record 201. Purchase data record 201 comprises a customer ID field 202 which contains an identification of the customer who made the purchase. The data stored in the customer ID field 202 is based upon the customer identification technique used by the POS system 105. The preferred embodiment uses a frequent shopper card with a unique identification number encoded within a printed barcode and the customer ID field 202 in the preferred embodiment contains that number. The purchase data record 201 also comprises a

time/date field 203 which contains the time and date of the purchase. The purchase data record 201 further comprises a variable length record containing the purchase list 204. The purchase list 204 comprises the electronically readable list of purchase selections purchased by that customer during that purchase transaction. The data stored in the purchase list 204 may be the bar code identifiers produced by the scanner 106 during the checkout process, or the POS system 105 may translate those codes into other codes used by the retailer.

The complementary information server 101 accesses the plurality of purchase data records 208 stored into the purchase database 102 to determine which complementary information, a recipe in the preferred embodiment, to send to customers. The present invention stores complementary information, such as usage suggestions and recipes, in association with one or more product identifiers, referred to as a specified set of items, that are the items to which the complementary information pertains. If a customer has recently purchased the items contained within a specified set of items, the complementary information associated with that specified set of items will be sent to that customer. All customers who purchase the specified set of items may receive the complementary information associated therewith, or a specified set of items may be stored in association with one or more customer identifications. Customers who may receive certain complementary information may be limited by storing the specified set of items that is associated with that information in association with that customer's identification and only providing the information to those customers who purchase the specified set of items that is stored in association with their identification.

The complementary information database 103 contains a plurality of data records, which each comprises a specified set of items and complementary information for the products listed in the associated specified set of items. A complementary information record 300, which contains usage complementary information and an associated specified set of items, is illustrated in figure 3. A plurality of complementary information records 300 are stored in the complementary information database 103. Figure 3 shows that the complementary information record 300 comprises complementary information 301 and a specified set of items definition 302. The complementary information in the preferred embodiment will be a recipe which uses some or all of the food products contained in the specified set of items definition 302. This recipe will contain instructions on how to prepare

a meal using those food products. The complementary information 301 may optionally contain a recipe that requires products that the customer has not recently purchased and may further contain a purchase recommendation for an additional item. This purchase recommendation may further contain a purchasing incentive, such as a coupon or notification of a special promotion for that product. This notified special promotion may be a discount which the customer receives by purchasing the product and presenting his or her identification. The recipe may further include information concerning a product which complements a recently purchased item as well as a purchasing incentive for that product. An example of this latter case is providing a purchaser of nacho chips information concerning, along with a purchase incentive for, a particular brand of salsa. Purchasing incentives which may be provided by the present invention include a coupon which will allow the customer to receive a discount on a purchase of the item.

Figure 3 further shows that the specified set of items 302 stored by the preferred embodiment comprises an item list 303 and a corresponding list comprising a maximum time since purchase 304 for each item contained in the item list. The item list contains a plurality of items that are related to the complementary information. In the preferred embodiment, the complementary information is a recipe which uses some of the items contained within the item list 303.

Each item in the item list 303 has an associated maximum time since purchase 304. This optional parameter is supplied by the retailer or operator in order to more effectively estimate the products that the customer has on hand when the complementary information will be received. The maximum time since purchase 304 is an estimate of the amount of time it will take a customer to consume an item after purchasing it. The recipe or other usage suggestion should be received by the customer before the customer has consumed the product in order to be more useful. The food items that are the purchases of interest in the present invention are usually consumed within a few days of purchase (e.g. most perishables), but some items, such as spices or bulk items, will take an average household longer to consume. The maximum time since purchase for each item will allow the expected usage pattern of the item to be approximated and accounted for in estimating the food items the customer has on hand when the complementary information is sent to him or her. Other items may have specified a long maximum time since purchase or have a code in this field, such as "-1," to

indicate that the item is not consumed. Items which are not consumed include tools or utensils, e.g. a juicer, and a recipe may be sent to a purchaser of a juicer and who recently purchased other products that may be juiced.

Alternative embodiments may not include a separate data element for the maximum time since purchase 304 in the complementary information database. These alternative embodiments may simply assume that all items are consumed within the same time period after purchase and use this assumed uniform consumption time instead of storing individual consumption times for each item. These embodiments may still store data which differentiates between consumed and non-consumed items. Yet other embodiments may not consider the time since the items were last purchase, and simply send the complementary information assuming that the customer may purchase the same or similar item after consuming the item purchased in the recorded purchase transaction.

The use of a maximum time since purchase improves the effectiveness of analyzing the purchases made by a customer during multiple purchase transactions. The complementary information server 101 may recall multiple purchase data records 201 which contain the equivalent customer identification stored in the customer ID field 202. The purchases on these multiple lists may be combined and analyzed to determine which products the customer is likely to have on hand.

The customer database 104 stores information related to each customer with an identification that is recognized by the retailer. In order to allow an embodiment of the present invention to send complementary information to the customers, the customer database 104 stores the addressing information for each customer who uses a customer identification read in conjunction with item purchases. The stored address may comprise an Internet e-mail address, a postal mailing address or other delivery specifications used by the particular embodiment. A specification of a world wide web page for individual customers may also be stored in association with customers identifications in the customer database 104 to allow complementary information to be provided to that customer through that world wide web page. The customer database 104 may also comprise demographic and household data for each customer to further base complementary information selections or to modify the estimated time to consume purchased products that is based upon the maximum time since purchase 304 parameter. For example, an embodiment may use maximum time since

purchase parameters assuming a family of four persons. That embodiment may use demographic data stored about families to assume that a family of eight will consume products twice as fast as the assumed family, and use only half of the stored maximum time since purchase to calculate the amount of time a customer will have the product on hand. The data stored in the customer database 104 is stored in association with an indication of the customer identification read by the ID reader 115 during the purchase of the items.

Alternative embodiments of the present invention may store some specified sets of items and associated complementary information in association with customer identifications in the customer database 104. These embodiments will examine purchase transaction items purchased by a customer to determine if they include all of the items in a specified set of items that is stored in association with that customer's identification. Purchase transaction items purchased by other customers are not compared to specified sets of items stored in association with a customer's identification.

The present invention may further select a plurality of recipes based upon the recent purchases of the customer, wherein the plurality of recipes is based upon the customer's recent purchases. This plurality of recipes may be used by the customer to plan a sequence of meals, i.e. as a meal planner. The recipes contained within this plurality may contain further purchase suggestions to complete the recipe's requirements, and optionally provide purchasing incentives to encourage the customer to purchase these further items. The purchase incentives may consist of a coupon or the specification of a discount available to the customer upon presenting his or her identification,

Alternative embodiments of the present invention may be used outside of retail grocery sales and distribute complementary information that include further purchase suggestions based upon an item a customer has recently purchased. Examples of alternative applications for the present invention include sending complementary information comprising movie rental suggestions when a movie rental customer has rented a particular movie. The movie rental suggestion will be based upon the first movie rental and may be a similar movie or a sequel to the first movie rental. The same type of operation may also be applied to book sales such that the complementary information is received by the customer at the time the customer is estimated to have finished a recently purchased book and is therefore interested in purchasing a new book. Other information which is useful to the customer, such a warranty

information concerning the recently purchased product itself, may also be automatically sent to the customer. Providing this information may encourage customers to participate in the service provided by the present invention.

The complementary information may be provided to the customer through a variety of channels. The information may be provided via electronic communications such as Internet e-mail. Internet e-mail may be sent by an e-mail server 108 that is electronically connected to the complementary information server 101. The e-mail server 108 formats and sends electronic mail messages through the Internet computer network 109 to an e-mail reader 110 that is used by the destination customer. The e-mail reader 110 displays the information contained in the e-mail message and allows the customer to read and print the information.

Information may also be provided to customers by sending printed information through conventional mail or other physical delivery systems. The mail server 107 of the preferred embodiment is a mailing service which will send the individualized information to the destination customer. The delivery of information through these methods uses either electronic communications addresses or physical delivery addresses which are stored for each customer in the customer database 104.

Alternative embodiments of the present invention may provide complementary information by providing each customer with an individualized world wide web page that contains the complementary information. A world wide web page may be stored on a world wide web server 112. The world wide web server 112 is electronically connected to the complementary information server 101 and receives the complementary information to display to each customer. The world wide web server 112 maintains a page or multiple pages for each user, and updates these pages to include the complementary information received from the complementary information server 101. These embodiments may limit access to the individualized world wide web pages through passwords or may allow open access to the web pages. The address of the individualized world wide web pages may be chosen to include the customer's name, or be tied to a customer's account number. The information provided through the individualized world wide web page may further include illustrations of products or finished dishes which were made with a recipe provided through that page. The data which defines the individualized world wide web page is communicated to a world wide web browser 113 over the Internet world wide computer network 109. The world wide web

browser 113 is used by a customer to receive the complementary information and the world wide web browser 113 allows the customer to view and print the information contained on the page.

Properly timing the delivery of the complementary information so as to allow its delivery during a time span of anticipated interest by the customer will increase its effectiveness. E-mail messages sent to arrive at desirable times of the day are more likely to cause action on the part of the customer. Timing physical mailings to arrive on the day of most likely interest will also improve the chances the customer will act on the information received. Lunch and dinner recipes delivered by e-mail will be most effective if received sufficiently prior to the customer's starting that meal's preparation that the customer may use the recipe. Movie rental suggestions, as well as dinner recipes, will be most effective if sent to working customers if they are received at the workplace just prior to leaving for the evening. The present invention is configured to have the e-mail server 108, send the complementary information so as to cause delivery at the most effective time for the information.

The complementary information server 101 and associated databases, the purchase database 102, complementary information database 103 and customer database 104, as well as the e-mail server may be hosted on a commercially available personal computer suitably programmed in accordance with the above teachings. The required programming may be performed by practitioners in the relevant arts. The mail server 107 may be a commercial bulk mailing service engaged in directed promotional advertising.

Obviously, numerous modifications and variations of the present invention are possible in light of the above teachings. It is therefore to be understood that within the scope of the appended claims, the invention may be practiced otherwise than as specifically described herein.

**Claims:**

1. A computer implemented method of distributing complementary information to purchasers of products, comprising the steps of:
  - storing information in association with identification of a specified set of items;
  - determining a customer identification during a purchase transaction;
  - identifying purchase transaction items purchased in said purchase transaction;
  - generating a determination by determining if said purchase transaction items include each purchasable item in said specified set of items;
  - and
  - depending providing to said customer said information stored in association with said specified set of items upon said determination.
2. A method according to claim 1, wherein said specified set of items is also stored in association with said customer identification.
3. A method according to claim 1, wherein said step of determining said customer identification comprises reading an identification number encoded into a bar code.
4. A method according to claim 1, wherein said step of determining said customer identification comprises reading an identification number encoded into magnetic stripe.
5. A method according to claim 1, wherein said step of determining said customer identification comprises reading customer biometrics.
6. A method according to claim 1, wherein said step of determining said customer identification comprises reading an identification number associated with a customer's payment account.
7. A method according to claim 6, wherein said customer's payment account is one of a checking account, a credit card account, and a debit card account.
8. A method according to claim 1, wherein said items are purchasable items.
9. A method according to claim 1, wherein said items are products.
10. A method according to claim 1, wherein said items are services.
11. A method according to claim 1, wherein said determination further depends upon the time interval between when said determination is made and when an item in said set of purchased items was purchased.



12. A method according to claim 1, wherein said specified set of items contains one item.
13. A method according to claim 1, wherein said specified set of items contains more than one item.
14. A method according to claim 1, wherein said step of providing to said customer said information occurs at a time prior to an expected time of consumption of some or all items comprising said specified set of items.
15. A method according to claim 14, wherein said expected time of consumption is stored in association with each of said item within said specified set of items.
16. A method according to claim 14, wherein said expected time of consumption depends upon customer demographics.
17. A method according to claim 1, wherein said specified set of items is associated with a specified time period relative to a purchase of said specified set of items and wherein said step of providing to said customer said information is performed during said specified time period.
18. A method according to claim 1, wherein said complementary information comprises a purchase recommendation for an additional item based upon a customer preference determined from said purchase transaction items.
19. A method according to claim 18, wherein said step of providing to said customer said information occurs during a time span of anticipated interest by said customer for said additional item, said time span determined by an amount of time elapsed since said purchase transaction.
20. A method according to claim 18, wherein said purchase transaction items comprises a movie rental.
21. A method according to claim 18, wherein said purchase transaction items comprises a book purchase.
22. A method according to claim 18, wherein said purchase transaction items comprises a food purchase.
23. A method according to claim 18, wherein said information further comprises a purchase incentive for said additional item.
24. A method according to claim 1, further comprising the step of maintaining a customer database comprising an electronic communication address or e-mail address stored in

- association with a stored customer identification and wherein said step of providing to said customer said information comprises sending an electronic communication to an e-mail or electronic communications address stored in association with said customer.
25. A method according to claim 1, further comprising the step of maintaining a customer database comprising a postal address stored in association with a stored customer identification and wherein said step of providing to said customer said information comprises mailing printed material to a postal address stored in association with said customer.
26. A method according to claim 1, further comprising the step of maintaining a personalized world wide web page for a customer and wherein said step of providing to said customer said information comprises providing said information on said personalized world wide web page.
27. A method according to claim 1, wherein said specified set of items comprises food items.
28. A method according to claim 27, wherein said complementary information comprises a recipe calling for the use of one or more item contained within said specified set of items.
29. A method according to claim 28, wherein said recipe further comprises a purchasing incentive for items called for within said recipe but were not included within said purchase transaction items.
30. A method according to claim 27, wherein said complementary information comprises a plurality of recipes calling for the use of one or more items contained within said specified set of items.
31. A system for distributing complementary information to purchasers of products, comprising:
- an suggestion database, said suggestion data based operating to store information in association with identification of a specified set of items;
  - customer identification customer identification means identification during a purchase transaction;
  - a point of sale system for identifying purchase transaction items purchased in said purchase transaction;

means for generating a determination by determining if said purchase transaction items include each purchasable item in said specified set of items;  
and  
means for depending providing to said customer said information stored in association with said specified set of items upon said determination.

32. A system according to claim 31, wherein said specified set of items is also stored in association with said customer identification.
33. A system according to claim 31, wherein said customer identification means identification comprises a bar code scanner for reading an identification number encoded into a bar code.
34. A system according to claim 31, wherein said customer identification means identification comprises a magnetic stripe reader for reading an identification number encoded into magnetic stripe.
35. A system according to claim 31, wherein said customer identification means identification comprises means for reading customer biometrics.
36. A system according to claim 31, wherein said customer identification means identification comprises means for reading an identification number associated with a customer's payment account.
37. A system according to claim 36, wherein said customer's payment account is one of a checking account, a credit card account, and a debit card account.
38. A system according to claim 31, wherein said items are purchasable items.
39. A system according to claim 31, wherein said items are products.
40. A system according to claim 31, wherein said items are services.
41. A system according to claim 31, wherein said determination further depends upon the time interval between when said determination is made and when an item in said set of purchased items was purchased.
42. A system according to claim 31, wherein said specified set of items contains one item.
43. A system according to claim 31, wherein said specified set of items contains more than one item.
44. A system according to claim 31, wherein said means for providing to said customer said information operates at a time prior to an expected time of consumption of some

- or all items comprising said specified set of items.
45. A system according to claim 44, wherein said expected time of consumption is stored in association with each of said item within said specified set of items.
  46. A system according to claim 44, wherein said expected time of consumption depends upon customer demographics.
  47. A system according to claim 31, wherein said specified set of items is associated with a specified time period relative to a purchase of said specified set of items and wherein said means for providing to said customer said information operates during said specified time period.
  48. A system according to claim 31, wherein said complementary information comprises a purchase recommendation for an additional item based upon a customer preference determined from said purchase transaction items.
  49. A system according to claim 48, wherein said means for providing to said customer said information operates during a time span of anticipated interest by said customer for said additional item, said time span determined by an amount of time elapsed since said purchase transaction.
  50. A system according to claim 48, wherein said purchase transaction items comprise a movie rental.
  51. A system according to claim 48, wherein said purchase transaction items comprise a book purchase.
  52. A system according to claim 48, wherein said purchase transaction items comprise a food purchase.
  53. A system according to claim 48, wherein said information further comprises a purchase incentive for said additional item.
  54. A system according to claim 31, further comprising a customer database comprising an electronic communication address or e-mail address stored in association with a customer identification and wherein said means for providing to said customer said information comprises means for sending an electronic communication to an e-mail or electronic communications address stored in association with said customer.
  55. A system according to claim 31, further comprising a customer database which stores a postal address in association with a customer identification and wherein said means

for providing to said customer said information comprises means for mailing printed material to a postal address stored in association with said customer.

56. A system according to claim 31, further comprising a personalized world wide web page for said customer and wherein said means for providing to said customer said information comprises means for providing said information on said personalized world wide web page.
57. A system according to claim 31, wherein said specified set of items comprises food items.
58. A system according to claim 57, wherein said complementary information comprises a recipe calling for the use of one or more item contained within said specified set of items.
59. A system according to claim 58, wherein said recipe further comprises a purchasing incentive for items called for within said recipe but were not included within said purchase transaction items.
60. A system according to claim 57, wherein said complementary information comprises a plurality of recipes calling for the use of one or more items contained within said specified set of items.
61. A computer program product comprising a computer storage medium having a computer program embedded in said computer storage medium for causing a computer to distribute complementary information to purchasers of products, said computer program performing the steps of:
  - storing information in association with identification of a specified set of items;
  - determining a customer identification during a purchase transaction;
  - identifying purchase transaction items purchased in said purchase transaction;
  - generating a determination by determining if said purchase transaction items include each purchasable item in said specified set of items;
  - and
  - depending providing to said customer said information stored in association with said specified set of items upon said determination.

**AMENDED CLAIMS**

[received by the International Bureau on 16 February 2001 (16.02.01);  
original claims 1-61 replaced by new claims 1-61 (6 pages)]

1. A computer implemented method of distributing complementary product information to purchasers of products, comprising the steps of:
  - storing complementary product information in association with an identification of a specified set of items;
  - determining a customer identification during a current purchase transaction;
  - identifying current purchase transaction items purchased during said current purchase transaction;
  - identifying previously-purchased items which a customer purchased within an expiration time of said previously-purchased items, said expiration time based on a past history utilization of said previously-purchased items by said customer;
  - determining if said current purchase transaction items and said previously-purchased items include every item in said specified set of items;
  - and
  - providing said customer with said complementary product information upon a positive determination from said determining step.
2. A method according to claim 1, wherein said specified set of items is stored in association with said customer identification.
3. A method according to claim 1, wherein said step of determining a customer identification comprises:
  - reading an identification number encoded in a bar code.
4. A method according to claim 1, wherein said step of determining a customer identification comprises:
  - reading an identification number encoded in a magnetic stripe.
5. A method according to claim 1, wherein said step of determining a customer identification comprises:
  - reading customer biometrics.
6. A method according to claim 1, wherein said step of determining said customer identification comprises:
  - reading an identification number associated with a customer's payment account.
7. A method according to claim 6, wherein said step of reading an identification number comprises:
  - reading one of a checking account, a credit card account, and a debit card account.
8. A method according to claim 1, wherein said step of storing comprises:

**AMENDED SHEET (ARTICLE 19)**

identifying a set of purchasable items.

9. A method according to claim 1, wherein said step of storing comprises:  
identifying a set of products.

10. A method according to claim 1, wherein said step of storing comprises:  
identifying a set of services.

11. A method according to claim 1, wherein said step of determining comprises:  
calculating a time interval between when said step of determining is made and when an  
item of said previously-purchased items was purchased; and  
determining if said time interval is longer than said expiration time.

12. A method according to claim 1, wherein said step of storing comprises:  
storing a set of said items containing one item.

13. A method according to claim 1, wherein said step of storing comprises:  
storing a set of said items containing more than one item.

14. A method according to claim 1, wherein said step of providing occurs within said  
expiration time.

15. A method according to claim 14, wherein said step of determining comprises:  
storing an expected time of consumption as the expiration time in association with each of  
specified set of items.

16. A method according to claim 14, wherein said step of storing an expected time of  
consumption comprises:  
varying the expected time according to customer demographics.

17. A method according to claim 1, wherein said step of storing complementary product  
information stores a time-dependent set of items associated with a specified time period relative to  
a purchase of said time-dependent set of items and wherein said step of providing is performed  
during said specified time period.

18. A method according to claim 1, wherein said step of storing complementary  
product information comprises:  
storing a purchase recommendation for an additional item based upon a customer  
preference determined from said previously-purchased transaction items.

19. A method according to claim 18, wherein said step of providing to said customer  
occurs during a time span of anticipated interest by said customer for said additional item, said  
time span determined by an amount of time elapsed since said current purchase transaction.

20. A method according to claim 18, wherein said step of identifying current purchase

transaction items comprises:

identifying a movie rental.

21. A method according to claim 18, wherein said step of identifying current purchase transaction items comprises:

identifying a book purchase.

22. A method according to claim 18, wherein said step of identifying current purchase transaction items comprises:

identifying a food purchase.

23. A method according to claim 18, wherein said step of storing complementary product information comprises:

storing a purchase incentive as said additional item.

24. A method according to claim 1, further comprising the step of:

maintaining a customer database comprising at least one of an electronic communication address and an e-mail address stored in association with a stored customer identification, wherein said step of providing said customer includes the step of sending an electronic communication to said at least one of an electronic communication address and an e-mail.

25. A method according to claim 1, further comprising the step of:

maintaining a customer database comprising a postal address stored in association with a stored customer identification,

wherein said step of providing said customer includes the step of mailing printed material to said postal address.

26. A method according to claim 1, further comprising the step of:

maintaining a personalized world wide web page for a customer.

wherein said step of providing said customer includes the step of providing said information on said personalized world wide web page.

27. A method according to claim 1, wherein said step of storing comprises:

storing as the specified set of items food items.

28. A method according to claim 27, wherein said step of storing complementary product information comprises:

storing a recipe for an use of at least one item contained within said specified set of items.

29. A method according to claim 28, wherein said step of storing a recipe comprises:

storing a purchasing incentive for non-purchased items called for within said recipe but not included within said current purchase transaction and said previously-purchased items.



30. A method according to claim 27, wherein said step of storing complementary product information comprises:

storing a plurality of recipes calling for an use of one or more items contained within said specified set of items.

31. A system for distributing complementary product information to purchasers of products, comprising:

a suggestion database, said suggestion data based configured to store information in association with an identification of a specified set of items;

means for customer identification customer identification means which identifies a customer during a current purchase transaction;

a point of sale system configured to identify current purchase transaction items purchased in said current purchase transaction;

means for identifying previously-purchased items which a customer purchased within an expiration time of said previously-purchased items with said expiration time based on a past history utilization of said previously-purchased items by said customer;

means for determining if said current purchase transaction items and said previously-purchased items include every item in said specified set of items; and

means for providing said customer with said complementary product information upon a positive determination in said determining step.

32. A system according to claim 31, wherein said specified set of items is stored in association with said customer identification.

33. A system according to claim 31, wherein said means for customer identification identification comprises:

a bar code scanner for reading an identification number encoded into a bar code.

34. A system according to claim 31, wherein said means for customer identification identification comprises:

a magnetic stripe reader for reading an identification number encoded into magnetic stripe.

35. A system according to claim 31, wherein said means for customer identification identification comprises:

means for reading customer biometrics.

36. A system according to claim 31, wherein said means for customer identification identification comprises:

means for reading an identification number associated with a customer's payment account.

37. A system according to claim 36, wherein said customer's payment account comprises: at least one of a checking account, a credit card account, and a debit card account.
38. A system according to claim 31, wherein said items comprise purchasable items.
39. A system according to claim 31, wherein said items comprise products.
40. A system according to claim 31, wherein said items comprise services.
41. A system according to claim 31, wherein said means for determination determines a time interval between when a determination is made and when an item of said previously-purchased items was purchased.
42. A system according to claim 31, wherein said specified set of items contains one item.
43. A system according to claim 31, wherein said specified set of items contains more than one item.
44. A system according to claim 31, wherein said means for providing provides said information at a time prior to an expected time of consumption of some or all items in said specified set of items.
45. A system according to claim 44, wherein said expected time of consumption is stored in association with each item of said specified set.
46. A system according to claim 44, wherein said expected time of consumption depends upon customer demographics.
47. A system according to claim 31, wherein said specified set of items is associated with a specified time period relative to a purchase of said specified set of items and wherein said means for providing provides said information during said specified time period.
48. A system according to claim 31, wherein said complementary product information comprises a purchase recommendation for an additional item based upon a customer preference determined from said current purchase transaction and said previously-purchased items.
49. A system according to claim 48, wherein said means for providing provides said information during a time span of anticipated interest by said customer for said additional item, said time span determined by an amount of time elapsed since said current purchase transaction.
50. A system according to claim 48, wherein said current purchase transaction items comprise a movie rental.
51. A system according to claim 48, wherein said current purchase transaction items comprise a book purchase.
52. A system according to claim 48, wherein said current purchase transaction items comprise a food purchase.

53. A system according to claim 48, wherein said complementary product information comprises a purchase incentive for said additional item.

54. A system according to claim 31, further comprising:

a customer database including at least one of an electronic communication address and an e-mail address stored in association with a customer identification,

wherein said means for providing includes means for sending an electronic communication to said at least one of an electronic communication address and an e-mail address.

55. A system according to claim 31, further comprising:

a customer database which stores a postal address in association with a customer identification,

wherein said means for providing includes means for mailing printed material to said postal address.

56. A system according to claim 31, further comprising:

a personalized world wide web page for said customer,

wherein said means for providing includes means for providing said information on said personalized world wide web page.

57. A system according to claim 31, wherein said specified set of items comprises:

food items.

58. A system according to claim 57, wherein said complementary product information

comprises:

a recipe calling for an use of one or more item contained within said specified set of items.

59. A system according to claim 58, wherein said recipe further comprises:

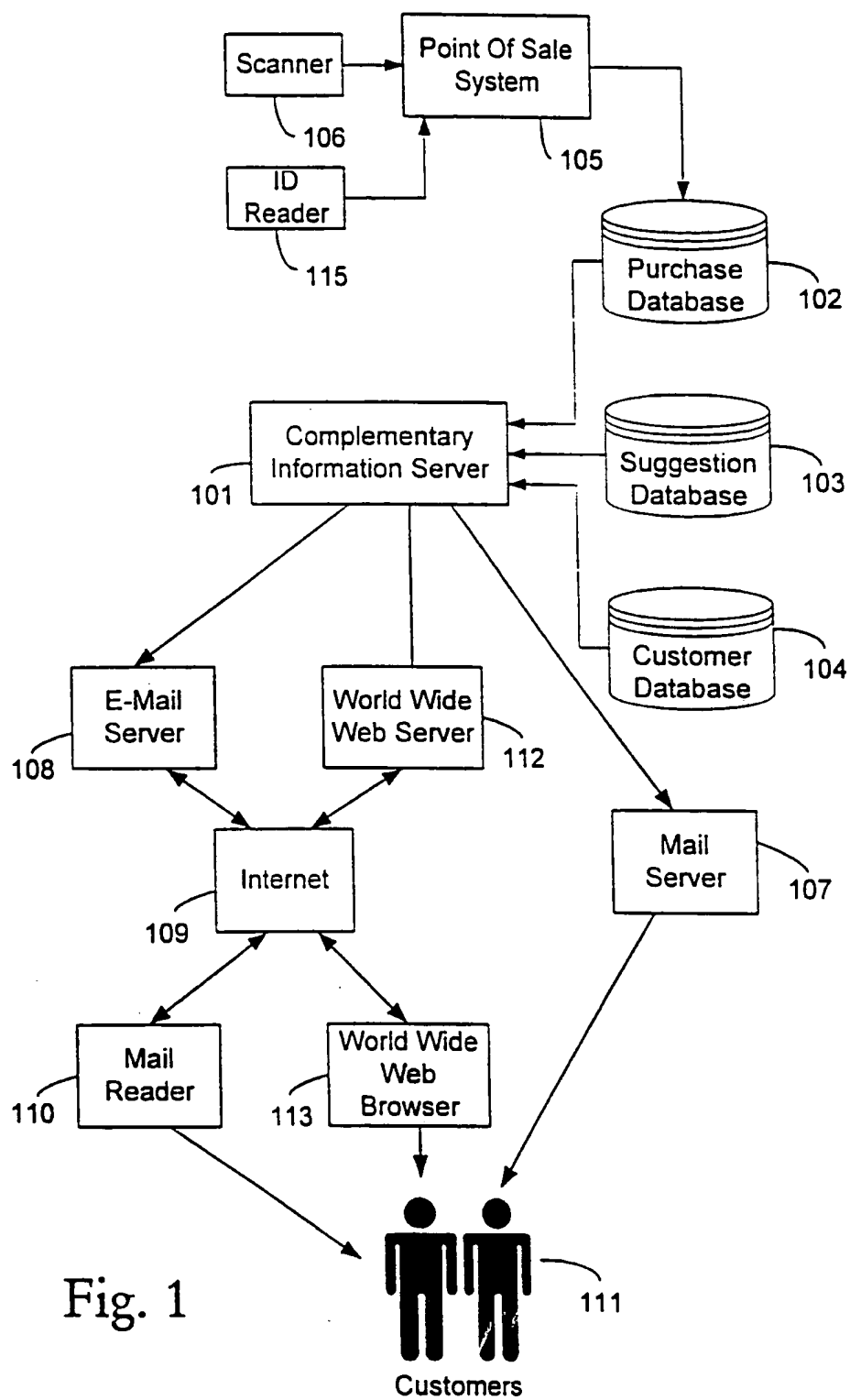
a purchasing incentive for non-purchased items called for within said recipe but not included within said current purchase transaction and said previously-purchased items.

60. A system according to claim 57, wherein said complementary information comprises:

a plurality of recipes calling for an use of one or more items contained within said specified set of items.

61. A computer program product comprising a computer storage medium having a computer program embedded in said computer storage medium for causing a computer to perform the method recited in any one of the claims 1-30.

I:\atty\RAR\Catalina\7791\0105\replace.wpd



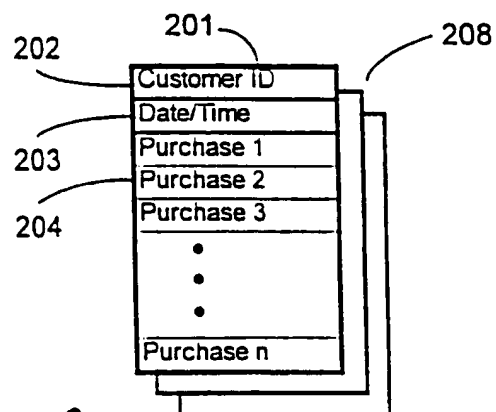


Fig. 2

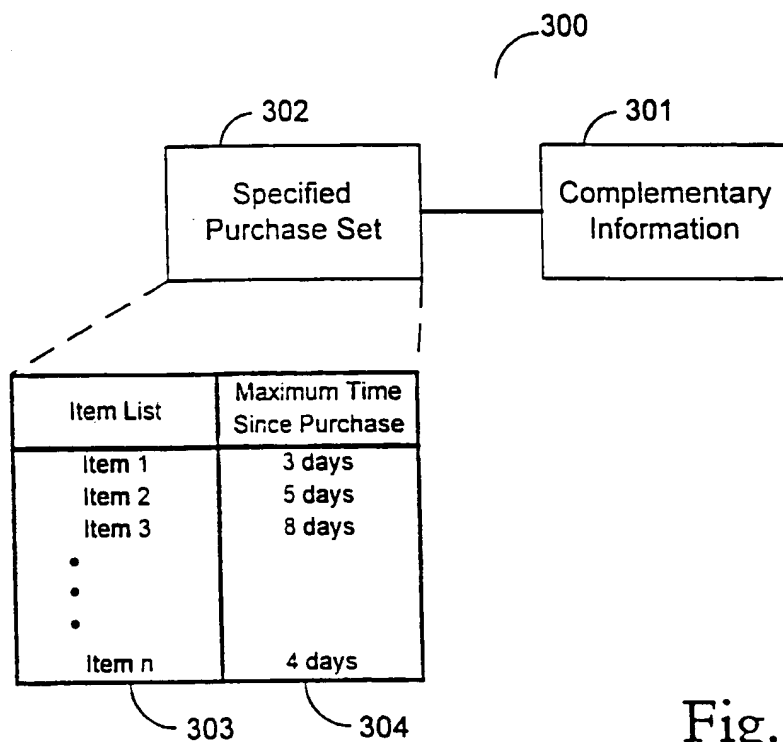


Fig. 3

## INTERNATIONAL SEARCH REPORT

National Application No

PCT/US 00/02532

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G07G1/00 G06F17/60

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G07G G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 832 457 A (O'BRIEN ET AL.) 3 November 1998 (1998-11-03)	1-5, 8, 9, 11-14, 22, 23, 25, 27, 31-35, 38, 39, 41-44, 52, 53, 55, 57, 61
Y	column 7, line 49 - column 8, line 3 column 10, line 54 - column 11, line 8 column 13, line 37 - line 52	6, 7, 15, 17, 25, 26, 28-30, 36, 37, 45, 47, 55, 56,
	-/-	

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

\*A\* document defining the general state of the art which is not considered to be of particular relevance

\*E\* earlier document but published on or after the international filing date

\*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

\*O\* document referring to an oral disclosure, use, exhibition or other means

\*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*&amp;\* document member of the same patent family

Date of the actual completion of the international search

18 July 2000

Date of mailing of the international search report

26/07/2000

Name and mailing address of the ISA

Europeaan Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Schofield, C

## INTERNATIONAL SEARCH REPORT

International Application No.

PCT/US 00/02532

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>US 5 353 218 A (DE LAPA ET AL.) 4 October 1994 (1994-10-04)</p> <p>column 1, line 32 - line 56 column 5, line 10 - line 14 column 6, line 11 - line 25</p>	58-60 6,7, 28-30, 36,37, 58-60
A		25,55
Y	<p>US 5 870 716 A (SUGIYAMA ET AL.) 9 February 1999 (1999-02-09) column 7, line 17 - line 62; figures 7,10</p>	15,17, 45,47
Y	<p>WO 97 23838 A (CATALINA MARKETING INTERNATIONAL, INC.) 3 July 1997 (1997-07-03) page 19, line 15 -page 23, line 22</p>	25,26, 55,56
X	<p>US 5 250 789 A (JOHNSEN) 5 October 1993 (1993-10-05)</p> <p>column 6, line 1 - line 15 column 9, line 17 - line 32</p>	1-3,8,9, 12,18, 22,23, 27, 31-33, 38,39, 42,48, 52,53, 57,61
A	<p>US 4 703 423 A (BADO ET AL.) 27 October 1987 (1987-10-27)</p> <p>column 2, line 67 -column 3, line 12 column 4, line 13 - line 40 column 7, line 66 -column 8, line 3</p>	10,28, 30,40, 58,60
A	<p>US 5 459 306 A (STEIN ET AL.) 17 October 1995 (1995-10-17)</p> <p>column 4, line 14 - line 65</p>	10,18, 20,40, 48,50

# INTERNATIONAL SEARCH REPORT

Information on patent family members

onal Application No

PCT/US 00/02532

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5832457 A	03-11-1998	AT 182418 T AU 662153 B AU 1928092 A BG 98172 A BR 9205979 A CA 2067987 A DE 69229615 D DE 69229615 T EP 0512509 A ES 2088832 T FI 934597 A GR 3031601 T HU 66049 A IL 101789 A JP 11511270 T MX 9202099 A NO 933747 A NZ 242614 A SK 115793 A WO 9220030 A ZA 9203270 A AU 5083793 A EP 0664034 A ES 2088836 T JP 2884115 B JP 8505247 T MX 9305772 A WO 9409440 A ZA 9306502 A	15-08-1999 24-08-1995 21-12-1992 15-08-1994 02-08-1994 07-11-1992 26-08-1999 10-02-2000 11-11-1992 01-10-1996 08-11-1993 31-01-2000 28-09-1994 31-10-1996 28-09-1999 01-11-1992 05-01-1994 26-07-1995 06-04-1994 12-11-1992 08-03-1996 09-05-1994 26-07-1995 01-10-1996 19-04-1999 04-06-1996 31-05-1994 28-04-1994 25-03-1994
US 5353218 A	04-10-1994	CA 2098329 A US 5822735 A US 6076068 A	18-03-1994 13-10-1998 13-06-2000
US 5870716 A	09-02-1999	JP 8103352 A JP 9026993 A	23-04-1996 28-01-1997
WO 9723838 A	03-07-1997	US 5970469 A AU 1344597 A EP 0870264 A JP 11506859 T	19-10-1999 17-07-1997 14-10-1998 15-06-1999
US 5250789 A	05-10-1993	NONE	
US 4703423 A	27-10-1987	NONE	
US 5459306 A	17-10-1995	AT 175508 T AU 2766995 A CA 2192981 A DE 69507143 D DE 69507143 T EP 0765506 A JP 10504918 T WO 9534870 A	15-01-1999 05-01-1996 21-12-1995 18-02-1999 30-09-1999 02-04-1997 12-05-1998 21-12-1995